



# UNITED STATES PATENT AND TRADEMARK OFFICE

W.D  
UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/535,684	05/19/2005	Jeffrey Powell	05-409	7931
20306	7590	08/24/2007	EXAMINER	
MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP			NGO, HUNG V	
300 S. WACKER DRIVE			ART UNIT	PAPER NUMBER
32ND FLOOR			2831	
CHICAGO, IL 60606				
MAIL DATE		DELIVERY MODE		
08/24/2007		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/535,684	POWELL ET AL
<b>Examiner</b>	<b>Art Unit</b>	
Hung V. Ngo	2831	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

**NO FURTHER EXTENSION OF TIME IS PROVIDED FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 22 June 2007.

2a)  This action is **FINAL**.                    2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## **Disposition of Claims**

4)  Claim(s) 1-27 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5)  Claim(s) \_\_\_\_\_ is/are allowed.  
6)  Claim(s) 1-27 is/are rejected.  
7)  Claim(s) \_\_\_\_\_ is/are objected to.  
8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on 26 October 2006 is/are: a)  accepted or b)  objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO/SB/08)  
    Paper No(s)/Mail Date \_\_\_\_\_  
  
4)  Interview Summary (PTO-413)  
    Paper No(s)/Mail Date. \_\_\_\_\_  
5)  Notice of Informal Patent Application  
6)  Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

The drawings filed on 10-26-06 are objected to because Fig 14 is missing from the drawings. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 5, 6, 8-12, 15-20, 22 are rejected under 35 U.S.C. 102(are) as being anticipated by Choon et al (US 5,608,188).

Re claim 1, Choon et al disclose a package (101) for a high frequency electrical circuit (201) comprising a cavity formed within a material for containment of the electrical circuit (Fig 1), wherein the package additionally comprises of a material having at least one surface (103) extending into the cavity, the at least one surface having a conductive material (col. 2, lines 45-55), the conductivity thereof being adapted to be at least partially absorbent to electromagnetic radiation (abstract).

Re claim 5, wherein the material having the at least one conductive surface takes the form of a vane (Fig 1).

Re claim 6, wherein at least one region of the conductive material is arranged to have a specific resistance substantially similar to that of a predicted electromagnetic field that will be present when the cavity is in use (col. 2, lines 45-55).

Re claim 8, wherein the package is designed to house circuitry (201) operative in at least one of the milliwave region in compartment (111) and submilliwave region in compartment (113).

Re claim 9 wherein the at least one conductive surface is mounted on a removable portion of the package (Fig 1).

Re claim 10, wherein the at least one conductive surface is mounted such that it is substantially normal to the surface (Fig 1)

Re claim 11, wherein the at least one conductive surface is mounted in a substantially symmetric fashion within the cavity in relation to a pair of opposing walls of the package (Fig 1).

Re claim 12, wherein the at least one conductive surface is substantially planar (Fig 1).

Re claim 15, a vane for suppressing cavity mode radiation and suitable for mounting within a package for a high frequency electrical circuit, the vane comprising at least in part a layer of conductive material (103) (col. 2, lines 45-55), the conductivity thereof being adapted to be at least partially absorbent to electromagnetic radiation (abstract).

Re claim 16, wherein the vane comprises a substrate upon which is arranged the conductive material layer (Fig 1).

Re claim 17, wherein the vane is mounted to an inner surface of the package by being affixed substantially along an edge of the vane (Fig 1).

Re claim 18, a high frequency electrical circuit mounted within a cavity (111, 113) in a package, wherein the cavity has an inner surface on which is positioned a material having a conductive surface (103) extending into the cavity, the conductivity thereof being adapted to be at least partially absorbent to electromagnetic radiation (abstract).

Re claim 19, a method of manufacturing a package (101) for a high frequency electrical circuit (201), comprising positioning a conductive surface (103) on an inner surface of the package, the conductive surface extending into the package (Fig 1), and

the conductivity thereof being adapted to be at least partially absorbent to electromagnetic radiation (abstract).

Re claim 20, wherein the conductivity of the conductive surface is chosen by one of: simulation of expected electrical properties (shielding property) of circuitry within the package, and a trial and error approach (col. 2, lines 45-55).

Re claim 22, a wherein the vane is mounted to an inner surface of the package by being affixed within a slot (407, 409) in the inner surface.

Claims 1-12, 15-20, 23-25, 27 are rejected under 35 U.S.C. 102(are) as being anticipated Benzoni (US 5,416,668)

Re claim 1, Benzoni disclose a package (20, 24) for a high frequency electrical circuit (22) comprising a cavity (36) formed within a material for containment of the electrical circuit, wherein the package additionally comprises of a material having at least one surface (52) extending into the cavity, the at least one surface having a conductive material (col. 3 lines 29-31), the conductivity thereof being adapted to be at least partially absorbent to electromagnetic radiation (abstract).

Re claim 2, wherein the at least one conductive surface comprises a layered structure with a first layer comprising a substrate (col. 2, line 26) and a second layer comprising a conductive material (col. 3, lines 29).

Re claim 3, wherein the substrate comprises a material chosen from alumina, quartz, plastic, glass and cardboard (col. 2, line 39).

Re claim 4, wherein the substrate comprises a dielectric occupying a substantial region of the cavity (Fig 1).

Re claim 5, wherein the material having the at least one conductive surface takes the form of a vane (Fig 1).

Re claim 6, wherein at least one region of the conductive material is arranged to have a specific resistance (col. 3, line 53) substantially similar to that of a predicted electromagnetic field that will be present when the cavity is in use.

Re claim 7, wherein the conductive material has conductivity properties different to that of other parts of the cavity (col. 3, line 53)

Re claim 8, wherein the package is designed to house circuitry (22) operative in at least one of the milliwave region in compartment and submilliwave region in the other compartment (Fig 1).

Re claim 9 wherein the at least one conductive surface is mounted on a removable portion of the package (Fig 1).

Re claim 10, wherein the at least one conductive surface is mounted such that it is substantially normal to the surface (Fig 1)

Re claim 11, wherein the at least one conductive surface is mounted in a substantially symmetric fashion within the cavity in relation to a pair of opposing walls of the package (Fig 1).

Re claim 12, wherein the at least one conductive surface is substantially planar (Fig 1).

Re claim 15, a vane for suppressing cavity mode radiation and suitable for mounting within a package (20, 24) for a high frequency electrical circuit, the vane comprising at least in part a layer of conductive material (52) (col. 3, line 29), the conductivity thereof being adapted to be at least partially absorbent to electromagnetic radiation (abstract).

Re claim 16, wherein the vane comprises a substrate upon which is arranged the conductive material layer (Fig 1).

Re claim 17, wherein the vane is mounted to an inner surface of the package by being affixed substantially along an edge of the vane (Fig 1).

Re claim 18, a high frequency electrical circuit mounted within a cavity (36) in a package, wherein the cavity has an inner surface on which is positioned a material having a conductive surface (52)(col. 3, line 29) extending into the cavity, the conductivity thereof being adapted to be at least partially absorbent to electromagnetic radiation (abstract).

Re claim 19, a method of manufacturing a package (20, 24) for a high frequency electrical circuit (22), comprising positioning a conductive surface (52)(col. 3, line 29) on an inner surface of the package, the conductive surface extending into the package (Fig 1), and the conductivity thereof being adapted to be at least partially absorbent to electromagnetic radiation (abstract).

Re claim 20, wherein the conductivity of the conductive surface is chosen by one of: simulation of expected electrical properties of circuitry within the package, and a trial and error approach (col. 3, lines 29-40).

Re claim 23, wherein the surface having thereupon the conductive material resides in a slot (48, 50) located in a dielectric material in the cavity.

Re claim 24, wherein the surface having thereupon the conductive material resides in a hole (48, 50) located in a dielectric material cavity.

Re claim 25, wherein the hole has a cylindrical form (Fig 1).

Re claim 27, wherein the substrate has a surface perpendicular to at least one wall of the package, the perpendicular surface having thereupon the conductive material (Fig 1).

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choon et al in view of Miska (US 6,901,660).

The teaching as discussed above does not disclose the conductive material made of nichrome or carbon

Miska teaches the use of nichrome or carbon to prevent oxidation.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use nichrome or carbon for the conductive material of Choon et al for the purpose of preventing oxidation.

Claims 13, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Benzoni in view of Miska (US 6,901,660).

The teaching as discussed above does not disclose the conductive material made of nichrome or carbon

Miska teaches the use of nichrome or carbon to prevent oxidation. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use nichrome or carbon for the conductive material of Benzoni for the purpose of preventing oxidation.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Choon et al

The teaching as discussed above does not disclose at least one conductive surface is substantially cylindrical.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the conductive surface of Choon et al by employing cylindrical surface for intended use, since more than a mere change of form is necessary for patentability. *In re Span-Deck Inc. v. Fab-Con, Inc.* (CA 8, 1982) 215 USPQ 835.

Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Benzoni

The teaching as discussed above does not disclose the conductive material made of ink.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use ink for the conductive material of Benzoni for intended use, since it has been held to be within the general skill of a worker in the art to select a

known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

***Response to Arguments***

Applicant's arguments filed 06-22-07 have been fully considered but they are not persuasive. Applicant argues (1) that the materials of Choon et al are intended to reflect and not absorb electromagnetic radiation, (2) that there is no disclosure or suggestion in Benzoni that the walls include a conductive material that is adapted to be at least partially absorbent to electromagnetic radiation, (3) that benzoni does not disclose a material having at least one surface extending into the cavity.

With respect to (1), the shielding material of Choon et al is functioned as claimed.

With respect to (2), the wall 52 of Benzoni is made of a conductive material (col. 3, lines 29-31) and capable of absorbing electromagnetic radiation.

With respect to (3), the conductive wall (52) of Benzoni is extended into the cavity.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung V. Ngo whose telephone number is (571) 272-1979. The examiner can normally be reached on Monday to Thursday 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean A. Reichard can be reached on (571) 272-2800 EXT 31. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HVN  
08-18-07

Hung V Ngo

**HUNG V. NGO  
PRIMARY EXAMINER**